



UNITED STATES DEPARTMENT OF COMMERCE
Pat nt and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

001059 10/03/97 DATE

001059
BERESKIN AND PARR
40 KING STREET WEST 40TH FLOOR
P.O. BOX 601
TORONTO ON M5H 3Y2
CANADA

TM62/0824

AIR MAIL

EXAMINER

FOR LMP, A

ART UNIT

PAPER NUMBER

1723

DATE MAILED:

08/24/00

RECEIVED

SEP 12 2000

BERESKIN & PARR

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary

Application No.

09/425,236

Applicant(s)

Cote et al.

Examiner

Ana Fortuna

Group Art Unit

1723



☒ Responsive to communication(s) filed on Oct 25, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

D.O. ENT. FA Nov. 24, 1999

Disposition of Claims

☒ Claim(s) 1-10 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-10 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 5 and 6

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 1723

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

2. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Cote et al. (WO 97/18887). Reference '887 discloses the process claimed including treating an affluent with an installation including an immersed the immersed membrane system having means for backwashing the membrane with a cleaning agent periodically, and at least partially draining the effluent contained in the filtration tank to expose the membranes to air during cleaning. Cleaning in sequence of 30 minutes to 4 hours, and aerating the membrane with air bubbles is also disclosed. The cleaning agents and suggested concentration for a particular period of time are also disclosed). Reducing the volume of reactant and the cleaning time by using the cleaning method including at least draining the tank while backwashing is disclosed (entire disclosure pages 1-22 and figures). Regarding claim 6, reference '887 also discloses performing the cleaning process as conventional in the art, e.g. without draining the tank (example 17), or draining the tank after cleaning. Transferring the content of one thank to another thank while performing the backwashing, for partially exposing the membrane to air is disclosed. (US 6,045,698 is equivalent for translation purpose).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1723

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cote et al. (WO 97/18887). Reference '887 fails to disclose the total concentration of chemical needed for cleaning the membrane in a week as min.mg/l, but discloses using NaOCL as cleaning agent in a concentration of 0.03 % in 100l/h for 15 minutes, and also discloses using between 2 to 20 liters per square meters of membrane. Therefore, the concentration of NaOCL needed for cleaning a predetermined membrane area during a week can be determined by the skilled artisan based on the information provided by '887, e.g by selecting a predetermined membrane area, the number of cleaning steps to be performed during a week and the frequency of cleaning, and also depending of the thickness of the layer of clogging material deposited on the membrane. It would have been obvious to one skilled in the pertinent art to perform the cleaning process with different concentration of chemical agents, depending on the degree of clogging and the frequency of cleaning, e.g. when the frequency of cleaning increases it would have been obvious to slightly reduce the concentration of the agent, since the membrane will be more clean at short time of use.

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

Art Unit: 1723

provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1, 3, 6, 7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 11 of U.S. Patent No. 6, 045,698.

Although the conflicting claims are not identical, they are not patentably distinct from each other because both claims are directed to the membrane cleaning process exposing the surface of the membrane during cleaning. Furthermore, the term "at least partially draining the effluent contained in said tank" to expose the membrane surface to air, suggest emptying the tank prior to the backwashing or just partially emptying the tank, which also can read in both partially emptying the tank and completely emptying the tank simultaneously with the backwashing with chemical agent, or starting the backwashing when the membrane surface is partially exposed to air.

8. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (5,403,479). Reference '479 discloses the process of cleaning the membrane while containing the effluent in the tank, with a cleaning agent at a particular concentration for a predetermined period of time, and periodically discharging concentrate from the tank. It wouldd have been obvious to one skilled in the art, to perform the filtration and cleaning operation by draining the tank after cleaning the membrane, since the concentration of the effluent increase after the solids are dislodge from the membrane surface, and dislodging solids to maintaining the effluent at a

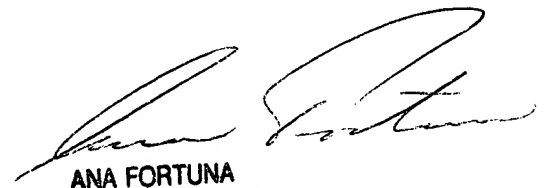
Art Unit: 1723

particular concentration is disclosed by '479 (Abstract, columns 1-14, lines 1-68, column 15, lines 1-47, column 8, lines 5-40, column 20, lines 35-43).

9. References 5,607,593, 6,643,455, 5,783,083, 5,944,997 are directed to cleaning immersed membranes while the tank contains the effluent, reference '455 also discloses transferring the content of the tank to another vessel during backwash operation, which suggests draining while cleaning. References JP8281082, JP6277664, and JP20228470 disclose cleaning the membrane without draining the tank, discharging the suspended substance components at the time of backwashing, and draining the container before membrane cleaning respectively.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana Fortuna whose telephone number is (703) 308-3857.

Facsimile No. (703)305-7718.


ANA FORTUNA
PRIMARY EXAMINER
GROUP 1300
1723

Ana Fortuna

August 22, 2000